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# List of Publications on MECHANICAL PROPERTIES AND STRUCTURAL USES OF WOOD AND WOOD PRODUCTS

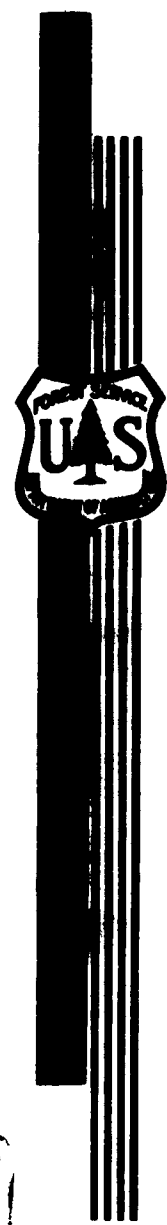
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↓ This list ~~which begins on page 2~~ includes publications that give general information and the results of research by the U.S. Forest Service and other organizations on the strength of timber and factors affecting strength, design of wood articles, or parts where strength or resistance to external forces is of importance.

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## INSTRUCTIONS FOR OBTAINING PUBLICATIONS

Publications available for distribution at this Laboratory are marked with an asterisk (\*).

Single technical notes, reprints, and processed reports may be obtained free upon request from the Director, Forest Products Laboratory, Madison 5, Wis.

Federal Government bulletins, circulars, and leaflets, if not available for free distribution at this Laboratory, may be purchased at the price indicated from the Superintendent of Documents, Government Printing Office, Washington 25, D. C. Send money order, draft, or cash; stamps or personal checks are not accepted.

Trade journals containing articles herein listed, if not available from the publishers, may be consulted in various libraries.

The Forest Products Laboratory reserves the right to furnish only those publications which in its judgment will give the information requested. Blanket requests or requests for a large number of copies of any individual article will not be filled except in unusual cases.

## FACTORS AFFECTING STRENGTH

Title	Author	Publication and date
<u>Growth Conditions</u>		
*How growth affects quality in hardwood lumber.	: Paul, B. H.	: South. Lbrmn. : 201(2512):31-32, : Dec. 1, 1961.
*Relationship of locality in rate of growth to density and strength of Douglas-fir.	: Drow, J. T.	: FPL Rept. 2078. : 1957.
Relation of growing space to specific gravity and strength of second-growth redwood.	: Paul, B. H., & : Luxford, R. F.	: West Coast Lbrmn., : June 15, 1928.
*How growth affects quality in hickory and ash.	: Paul, B. H.	: Wood Working Indus., : Feb. 1926. Hard- : wood Record, : Jan. 10, 1925.
<u>Growth Features</u>		
Structure, occurrence, and properties of compression wood.	: Pillow, M. Y., & : Luxford, R. F.	: USDA Tech. Bull. : 546. 1937. Out of : Print.
*Compression wood cause of bowing and twisting.	: Pillow, M. Y.	: South. Lbrmn., : Mar. 1, 1931; : Wood Construc., : Nov. 1, 1930; Wood : Working Indus., : Nov. 1930.
Structural timbers: Defects and their influence on strength.	: Newlin, J. A., & : Johnson, R. P. A.	: Am. Soc. Testing : Materials Proc. : 1924.

## FACTORS AFFECTING STRENGTH (continued)

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### Growth Features (continued)

Effect of spiral grain on strength of wood.	: Wilson, T. R. C.	: Jour. For., Nov. 1921.
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### Loading Conditions

*Fatigue resistance of quarter-scale bridge stringers in flexure and shear.	: Lewis, W. C.	: FPL Rept. 2236. 1962.
*Creep of small wood beams under constant bending load.	: Clouser, W. S.	: FPL Rept. 2150. 1959.
*Effect of repeated loading and salt-water immersion on flexural properties of laminated white oak.	: Freas, A. D., & Werren, Fred	: Forest Prod. Jour. 9(2):100-103. Feb. 1959.
*Effect of prestressing on mechanical properties of Douglas-fir and southern yellow pine.	: Wood, L. W.	: FPL Rept. 2073. 1957.
*The influence of rate of loading on the strength of wood and wood-base material.	: Markwardt, L. J., & Liska, J. A.	: Reprint from Am. Soc. Testing Materials Symposium on Speed of Testing. 1956.
*The fatigue behavior of wood and plywood subjected to repeated and reversed bending stresses.	: Kommers, W. J.	: FPL Rept. 1327. 1943. Information Reviewed and Reaffirmed 1960.



## FACTORS AFFECTING STRENGTH (continued)

Title	Author	Publication and date
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<u>Loading Conditions</u> (continued)		
*Supplement: The fatigue behavior of Douglas-fir and Sitka spruce subjected to reversed stresses superimposed on steady stresses.	Kommers, W. J.	FPL Rept. 1327-A. 1944. Information Reviewed and Re- affirmed 1960.
*Effect of a single reversal of stress on the static and impact bending strength of Sitka spruce and Douglas-fir.	Kommers, W. J.	FPL Rept. 1325. 1943. Information Reviewed and Re- affirmed 1962.
*Effect of ten repetitions of stress on the bending and compressive strengths of Sitka spruce and Douglas-fir.	Kommers, W. J.	FPL Rept. 1320. 1943. Information Reviewed and Re- affirmed 1960.
*Effect of rapid loading on the compressive and flexural strength of wood.	Liska, J. A.	FPL Rept. 1767. 1950. Information Reviewed and Re- affirmed 1960.
*Effect of 5,000 cycles of repeated bending stresses on 5-ply Sitka spruce plywood.	Kommers, W. J.	FPL Rept. 1305. 1943. Information Reviewed and Re- affirmed 1960.
*Effects of speed of test on bending strength of insulation fiberboard.	Lewis, W. C.	Tappi 38(2):65-68, Feb. 1955.
*Effect of rapid loading and duration of stress on the strength properties of wood tested in compression and flexure.	Brokaw, M. P., & Foster, G. W.	FPL Rept. 1518. 1945. Information Reviewed and Re- affirmed 1958.

## FACTORS AFFECTING STRENGTH (continued)

Title	Author	Publication and date
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### Loading Conditions (continued)

*Relation of strength of wood to duration of load.	: Wood, L. W.	: FPL Rept. 1916.
	:	: 1951. Information
	:	: Reviewed and Re-
	:	: affirmed 1960.
*Fatigue of wood and glued joints used in laminated construction.	: Lewis, W. C.	: Forest Prod. Res.
	:	: Soc. Proc., 1951.
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Speed of testing of wood: Factors in its control and its effect on strength.	: Markwardt, L. J.,	: Am. Soc. Testing
	: & Liska, J. A.	: Materials Proc.,
	:	: 1948.
	:	:
Behavior of wood under continued loading.	: Wood, L. W.	: Eng. News-Record
	:	: 139(24):108-111,
	:	: Dec. 11, 1947.

### Moisture

*Strength-moisture relations for wood.	: Wilson, T. R. C.	: USDA Tech. Bull.
	:	: 282. 1932.

### Preservative Treatment

*Effect of pressure treatment with coal-tar creosote on the strength of Douglas-fir structural timbers.	: Luxford, R. F., & MacLean, J. D.	: FPL Rept. 1798.
	:	: 1951.
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### Seasoning

*Recommendations of the Madison conference on fundamental research in wood drying.	: Youngs, R. L.	: Forest Prod. Jour.
	:	: 9(3):121-124,
	:	: Mar. 1959.
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*Mechanical properties of red oak related to drying.	: Youngs, R. L.	: Forest Prod. Jour.
	:	: 7(10):315-324,
	:	: Oct. 1957.

## FACTORS AFFECTING STRENGTH (continued)

Title	Author	Publication and date
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### Seasoning (continued)

*Effect of partial seasoning on the strength of wood.	Wilson, T. R. C., Carlson, T. A., & Luxford, R. F.	Am. Wood-Pres. Assn. Proc. 1930; FPL Rept. 1024. 1930. Information Reviewed and Re- affirmed 1960.
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### Specific Gravity

*Specific gravity-strength relations: for wood.		FPL Rept. 1303. 1956. Information Reviewed and Re- affirmed 1962.
*Southern pine and the density rule.	Wood, L. W.	South. Lbrmn., Dec. 1950.
The relation of the shrinkage and strength properties of wood to its specific gravity.	Newlin, J. A., & Wilson, T. R. C.	USDA Bull. 676. 1919. Out of Print.

### Stain and Decay

*"Black streak" in western hemlock: Its characteristics and influence on strength.	Luxford, R. F., Wood, L. W., & Gerry, E.	FPL Rept. 1500. 1943. Information Reviewed and Re- affirmed 1960.
*The significance of the discolorations in aircraft veneers: Mahogany and khaya.	Hansbrough, J. R., & Krause, R. L.	FPL Rept. 1379. 1943. Information Reviewed and Re- affirmed 1962.

## FACTORS AFFECTING STRENGTH (continued)

Title	Author	Publication and date
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<u>Stain and Decay</u> (continued)		
*The significance of the discolorations in aircraft veneers: Yellow birch.	: Hansbrough, J. R., : Waterman, A. M., : & Luxford, R. F.	: FPL Rept. 1377. : 1943. Information : Reviewed and Re- : affirmed 1962.
*The significance of the discolorations in yellow-poplar veneers.	: Hepting, G. H., : Roth, E. R., & : Luxford, R. F.	: FPL Rept. 1375. : 1952. Information : Reviewed and Re- : affirmed 1958.
*The significance of the discolorations in aircraft lumber: Noble fir and western hemlock.	: Englerth, G. H., & : Hansbrough, J. R.	: Forest Path. Spec. : Rel. No. 24. : 1945.
*The significance of black line stain in yellow birch propeller lumber.	: Hansbrough, J. R.	: Forest Path. Spec. : Rel. No. 23. : 1945.
*The significance of the discolorations in aircraft lumber: Sitka spruce.	: Hansbrough, J. R., : & Englerth, G. H.	: Forest Path. Spec. : Rel. No. 21. : 1944.
*The significance of the discolorations in aircraft veneers: American beech.	: Hansbrough, J. R., : Waterman, A. M., : & Krause, R. L.	: Forest Path. Spec. : Rel. No. 16. : 1944.
*Chemical stain in noble fir as related to strength.	: Luxford, R. F., & : & Krone, R. H.	: FPL Rept. 1329. : 1943. Information : Reviewed and Re- : affirmed 1962.
*The effect of certain heart rot fungi on the specific gravity and strength of Sitka spruce and Douglas-fir.	: Scheffer, T. C., : Wilson, T. R. C., : Luxford, R. F., & : Hartley, C.	: USDA Tech. Bull. : 779. 1941.

## FACTORS AFFECTING STRENGTH (continued)

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### Stain and Decay (continued)

Effect of blue stain on specific gravity and strength of southern pine.	Chapman, A. D., & Scheffer, T. C.	Jour. Agr. Res., July 15, 1940.
*Decay and toughness losses in southern pine infected by <u>Peniophora</u> .	Lindgren, R. M., & Erickson, E. C.	Forest Prod. Jour. 6(6):201-204, June 1957.

### Miscellaneous

*Effect of temperature and moisture content on internal friction and speed of sound in Douglas-fir.	James, W. L.	Forest Prod. Jour. 11(9):383-390, Sept. 1961.
*Effect of hydraulic-equipment oils on the bending and compressive strength of Sitka spruce.	Drow, J. T.	FPL Rept. 1520. 1945. Information Reviewed and Re-affirmed 1962.
*Effect of elliptic or circular holes on the stress distribution in plates of wood or plywood considered as orthotropic materials.		FPL Rept. 1510. 1944. Information Reviewed and Re-affirmed 1962.
*Wood at low temperatures.	Boller, K. H.	Modern Packaging 28(1):153-157, Sept. 1954.
*Comparative value of timber cut from live and dead trees.		FPL Tech. Note 101. 1958.

## FACTORS AFFECTING STRENGTH (continued)

Title	Author	Publication and date
<u>Miscellaneous</u> (continued)		
*Effect of extractives on the strength of wood.	Luxford, R. F.	Jour. Agr. Res., June 15, 1931.

## JOINTS AND FASTENINGS

Title	Author	Publication and date
<u>Bolts</u>		
*Bolt-bearing strength of wood and modified wood: Bearing strength of commercial crossbanded compreg under aircraft bolts.	Hunt, P. J., Goodell, H. R., & Phillips, R. S.	FPL Rept. 1523-B. 1946. Information Reviewed and Re- affirmed 1962.
*Supplement: Bearing strength of commercial aircraft plywood under aircraft bolts.	McLeod, A. M.	FPL Rept. 1523-C. 1946. Information Reviewed and Re- affirmed 1962.
*Supplement: Bearing strength of wood members reinforced with plywood and crossbanded compreg under single and multiple aircraft bolts.	Sanborn, W. A., Goodell, H. R., Ely, A. W., & Phillips, R. S.	FPL Rept. 1523-D. 1946. Information Reviewed and Re- affirmed 1962.
*Theoretical design of a nailed or bolted joint under lateral load.	Kuenzi, E. W.	FPL Rept. 1951. 1953. Information Reviewed and Re- affirmed 1962.

## JOINTS AND FASTENINGS (continued)

Title	Author	Publication and date
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<u>Bolts (continued)</u>		
The bearing strength of wood under bolts.	: Trayer, G. W.	: USDA Tech. Bull.
	:	: 332. 1932. Out of
	:	: Print.
<u>Connectors</u>		
Timber connector joints: Their strength and design.	: Scholten, J. A.	: USDA Tech. Bull.
	:	: 865. 1944. Out of
	:	: Print.
Modern connectors in wood construction.	: Scholten, J. A.	: Ag. Eng., May 1938.
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Modern connectors for timber construction.	: Perkins, N. S.,	: Joint publication of
	: Landsen, P., &	: Natl. Comm. on
	: Trayer, G. W.	: Wood. Util. and
	:	: Forest Prod. Lab.,
	:	: 1933. 20 cents.
<u>Lag Screws</u>		
*Lag screw joints: Their behavior and design.	: Newlin, J. A., &	: USDA Tech. Bull.
	: Cahagan, J. M.	: 597. 1938.
<u>Nails</u>		
*Performance comparison of slender and standard spirally grooved pallet nails.	: Heebink, T. B.	: FPL Rept. 2238.
	:	: 1962.
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*Spacing of sixpenny and eight-penny wire nails in Douglas-fir multi-nail joints.	: Ramos, A. N.	: FPL Rept. 2155.
	:	: 1960.
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# JOINTS AND FASTENINGS (continued)

Title	Author	Publication and date
<u>Nails</u> (continued)		
*Effect of nail points on the withdrawal resistance of plain nails.	Scholten, J. A.	FPL Rept. 1226. 1940. Information Reviewed and Re- affirmed 1959.
*Nailing dense hardwoods.		FPL Tech. Note 247. 1953.
*Nail-withdrawal resistance of American woods.		FPL Tech. Note 236. 1958.
*General observations on the nailing of wood.		FPL Tech. Note 243. 1957.
*Slant driving of nails! Does it pay?	Markwardt, L. J., & Gahagan, J. M.	FPL Rept. 954. 1930. Information Reviewed and Re- affirmed 1962.
Why nails hold.	Markwardt, L. J., & Gahagan, J. M.	Wood Prod., Sept. 1951. Pack. & Shipping, Oct. 1951.
*Nail-holding properties of southern hardwoods.	Scholten, J. A.	South. Lbrmn., Dec. 1950.
*Strength of nailed joints in frame walls.	Scholten, J. A., & Molander, E. G.	Agr. Eng., Nov. 1950.
Technique of house nailing.	Forest Products Laboratory	In cooperation with the Housing & Home Finance Agency, Washington, D. C., Nov. 1947.



## JOINTS AND FASTENINGS (continued)

Title	Author	Publication and date
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### Nails (continued)

The grooved nail.	: Markwardt, L. J., & Cahagan, J. M.	: Pack. & Shipping, Apr. 1929; Barrel & Box & Pack., Aug. 1929.
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### Railroad Spikes

Tests of the holding force of common and screw railroad spikes in natural and treated Douglas-fir ties.	: Zimmerman, C. W.	: West Coast Lbrmn., Nov. 15, 1922.
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### Screws

*Strength of screw fastenings in plywood.	:	: FPL Tech. Note 149. 1958.
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### Miscellaneous

*Proceedings of the symposium on fastenings for wood in house construction.	:	: FPL Rept. 2241. 1962.
*Strong joints + strong materials properly used = strong buildings.	:	: FPL Tech. Note 262. 1962.
*Corrosion of metal fastenings in zinc-chloride-treated wood after 20 years.	: Baechler, R. H.	: Am. Wood-Pres. Proc. 1949.

## JOINTS AND FASTENINGS (continued)

Title	Author	Publication and date
<u>Miscellaneous</u> (continued)		
Wood fastenings in farm structures.	Scholten, J. A.	A contribution of the Com. on Commercial Bldg. Materials --Wood--of the Am. Soc. of Agr. Engrs., July 6, 1936.
Corrosion of metal fastenings in zinc-chloride-treated wood.	Baechler, R. H.	Indus. & Eng. Chem., Dec. 1934.

## LAMINATED WOOD CONSTRUCTION

Title	Author	Publication and date
*Stiffness and bending strength of beams laminated from two species of wood.	Ethington, R. L.	FPL Rept. 2156. 1960.
*Deflection characteristics of two 20-foot-diameter laminated wood rings subjected to compressive loading along a diameter.	Werren, Fred, & Ethington, R. L.	FPL Rept. 1877. 1960.
Development of working stresses for glued laminated lumber.	Freas, A. D.	Am. Railway Eng. Assn. Proc. 1956, Vol. 57, pp. 979-985.

# LAMINATED WOOD CONSTRUCTION (continued)

Title	Author	Publication and date
*Scarf joints prove feasible for large laminated members.	Werren, Fred	Wood & Wood Prod. 61(7):22, 80-81, July 1956.
*Factors affecting strength and design principles of glued laminated construction.	Freas, A. D.	FPL Rept. 2061. 1956. Information Reviewed and Re-affirmed 1962.
*Laminated, bolted, and solid keels for 50-foot Navy motor launch compared for strength.	Luxford, R. F., & Krone, R. H.	FPL Rept. 1625. 1946. Information Reviewed and Re-affirmed 1962.
*Laminated oak frames for a 50-foot Navy motor launch compared to steam-bent frames.	Luxford, R. F., & Krone, R. H.	FPL Rept. 1611. 1945. Information Reviewed and Re-affirmed 1962.
*Strength of glued laminated Sitka spruce made up of rotary-cut veneers.	Luxford, R. F.	FPL Rept. 1512. 1944. Information Reviewed and Re-affirmed 1962.
Fabrication and design of glued laminated wood structural members.	Freas, A. D., & Selbo, M. L.	USDA Tech. Bull. 1069. Feb. 1954.
*End joints of various types in Douglas-fir and white oak compared for strength.	Luxford, R. F., & Krone, R. H.	FPL Rept. 1622. 1946. Information Reviewed and Re-affirmed 1961.
*Stresses in laminated wood construction.		FPL Tech. Note 140. 1952.

## LAMINATED WOOD CONSTRUCTION (continued)

Title	Author	Publication and date
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*Hickory-ash bats get baseball trial.	McDonald, J. K.	South. Lbrmn. 183(2297):193-194. Dec. 15, 1951.
*Studies of the strength of glued laminated wood construction.	Freas, A. D.	ASTM Bull. No. 170. Dec. 1950.
The glued laminated wooden arch.	Wilson, T. R. C.	USDA Tech. Bull. 691. 1939. 20 cents.
Built-up wood columns conserve lumber.	Scholten, J. A.	Eng. News-Record, Aug. 27, 1931.

## METHODS OF DETERMINING PROPERTIES

Title	Author	Publication and date
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### Elastic and Strength Properties

*Modulus of elasticity of wood determined by dynamic methods.	Bell, E. R., Peck, E. C., & Krueger, N. T.	FPL Rept. 1977. 1954. Information Reviewed and Re- affirmed 1959.
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# METHODS OF DETERMINING PROPERTIES (continued)

Title	Author	Publication and date
<u>Elastic and Strength Properties</u> (continued)		
*Tension test methods for wood, wood-base materials, and sandwich construction.	Markwardt, L. J., & Youngquist, W. G.	Reprint from Am. Soc. Testing Materials Symposium on Tension Testing of Non-Metallic Materials, Spec. Tech. Pub. No. 194. 1957. Also: FPL Rept. 2055. 1956. Information Reviewed and Reaffirmed 1962.
*Approximate methods of calculating the strength of plywood.	Markwardt, L. J., & Freas, A. D.	FPL Rept. 1630. Revised 1946. Information Reviewed and Reaffirmed 1962.
*The effect of a change in testing speed and span on the flexural strength of insulating and structural fiberboards and a proposed new method of test.	Youngquist, W. G., & Munthe, B. P.	FPL Rept. 1717. 1948. Information Reviewed and Reaffirmed 1962.
*The bending strength and stiffness of plywood.	Freas, A. D.	FPL Rept. 1304. Revised 1956. Information Reviewed and Reaffirmed 1962.
*Stress-strain relations in wood and plywood considered as orthotropic materials.		FPL Rept. 1503. 1956. Information Reviewed and Reaffirmed 1962.

## METHODS OF DETERMINING PROPERTIES (continued)

Title	Author	Publication and date
<u>Elastic and Strength Properties</u> (continued)		
The influence of the form of a wooden beam on its stiffness and strength--		
*I - Deflection of beams with special reference to shear deformations. (Reprint from NACA Report 180.)	Newlin, J. A., & Trayer, G. W.	FPL Rept. 1309. 1941. Information Reviewed and Re-affirmed 1956.
*III - Stresses in wood members and subjected to combined column and beam action. (Reprint from NACA Report 188.)	Newlin, J. A., & Trayer, G. W.	FPL Rept. 1311. 1941. Information Reviewed and Re-affirmed 1956.
*Form factors of beams subjected to transverse loading only. (Reprint from NACA Report 181.)	Newlin, J. A., & Trayer, G. W.	FPL Rept. 1310. 1941. Information Reviewed and Re-affirmed 1956.
*Strength of orthotropic materials subjected to combined stresses.	Norris, C. B.	FPL Rept. 1816. 1950. Information Reviewed and Re-affirmed 1962.
*Report on progress in development of testing methods for fiberboards.	Markwardt, L. J.	FPL Rept. 2105. 1958.
*Effect of size and shape of specimen on the tensile strength of fiberboards.	Lewis, W. C.	FPL Rept. 1716. 1948. Information Reviewed and Re-affirmed 1960.

## METHODS OF DETERMINING PROPERTIES (continued)

Title	Author	Publication and date
<hr style="border-top: 1px dashed black;"/>		
<u>Elastic and Strength Properties</u> (continued)		
*Methods of calculating the strength and modulus of elasticity of plywood in compression.	: Liska, J. A.	: FPL Rept. 1315. : Revised 1950. Information Reviewed and Reaffirmed 1960.
Methods for determining the elastic constants of non-metallic materials.	: Kuenzi, E. W.	: Am. Soc. Testing Materials Spec. Tech. Pub. No. 118, pp. 70-78. 1952.
A new method of calculating the ultimate strength of continuous beams.	: Newlin, J. A., & Trayer, G. W.	: NACA Report 347. 1930.

### Growth Features

*Detection of compression failures in wood.	:	: FPL Rept. 1588. 1944. Information Reviewed and Reaffirmed 1961.
*Instrument for rapidly measuring slope of grain in lumber.	: Anderson, E. A., Koehler, A., & Krone, R. H.	: FPL Rept. 1592. 1945. Information Reviewed and Reaffirmed 1960.
*Guide to determining slope of grain in lumber and veneer.	: Koehler, A.	: FPL Rept. 1585. 1943. Information Reviewed and Reaffirmed 1960.

## METHODS OF DETERMINING PROPERTIES (continued)

Title	Author	Publication and date
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### Growth Features (continued)

*Compression wood: Importance and detection in aircraft veneer and plywood.	:	FPL Rept. 1586.
	:	1943. Information
	:	Reviewed and Re-
	:	affirmed 1959.
*A simple device for detecting compression wood.	:	FPL Rept. 1390.
	:	1941. Information
	:	Reviewed and Re-
	:	affirmed 1959.

### Specific Gravity

*Methods of determining the specific gravity of wood.	:	FPL Tech. Note
	:	B-14. 1956.
Methods for determining the specific gravity of wood and wood-base materials.	: Markwardt, L. J.,	Am. Soc. Testing
	: & Paul, B. H.	Materials Proc.
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<u>Testing Procedures</u> (continued)		
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## METHODS OF DETERMINING PROPERTIES (continued)

Title	Author	Publication and date
<u>Testing Procedures</u> (continued)		
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Title	Author	Publication and date
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Title	Author	Publication and date
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*Supplement: The moduli of rigidity of Sitka spruce and their relations to moisture content.	Doyle, D. V., McBurney, R. S. & Drow, J. T.	FPL Rept. 1528-B. 1946. Information Reviewed and Re- affirmed 1962.
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Title	Author	Publication and date
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Title	Author	Publication and date
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Title	Author	Publication and date
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Title	Author	Publication and date
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# SANDWICH CONSTRUCTIONS AND MATERIALS (continued)

Title	Author	Publication and date
<u>Properties</u> (continued)		
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*Supplement: Results for panels with facings of either equal or unequal thickness and with orthotropic cores.	Kimel, W. R.	FPL Rept. 1857-A. 1956. Information Reviewed and Re- affirmed 1962.

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Title	Author	Publication and date
<u>Properties</u> (continued)		
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*Compressive buckling design curves for sandwich panels with isotropic facings and orthotropic cores.	Norris, C. B.	FPL Rept. 1854. Revised 1958.
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# SANDWICH CONSTRUCTIONS AND MATERIALS (continued)

Title	Author	Publication and date
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## Properties (continued)

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*Supplement: Analysis of long cylinders of sandwich con- struction under uniform ex- ternal lateral pressure: Fac- ings of moderate and unequal thickness.	: Raviile, M. E.	: FPL Rept. 1844-A. : 1955. Information : Reviewed and Re- : affirmed 1960.
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# SANDWICH CONSTRUCTIONS AND MATERIALS (continued)

Title	Author	Publication and date
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## Properties (continued)

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Title	Author	Publication and date
<u>Properties (continued)</u>		
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*Effect of shear strength on maximum loads of sandwich columns.	Boller, K. H., & Norris, C. B.	FPL Rept. 1815. 1950. Information Reviewed and Re- affirmed 1960.
*Elastic stability of the facings of flat sandwich panels when subjected to combined edgewise stresses.	Boller, K. H., & Norris, C. B.	FPL Rept. 1802. 1949. Information Reviewed and Re- affirmed 1960.
*Strength of aluminum lap joints at elevated temperatures (tests conducted immediately after the temperature was reached).	Kuenzi, E. W.	FPL Rept. 1808. 1949. Information Reviewed and Re- affirmed 1962.
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*Supplement: Sandwich constructions having honeycomb cores.	Norris, C. B., & Boller, K. H., & Voss, A. W.	FPL Rept. 1810-A. 1953. Information Reviewed and Re- affirmed 1962.
*Flexural rigidity of a rectangular strip of sandwich construction.	March, H. W., & Smith, C. B.	FPL Rept. 1505. Revised 1955. In- formation Reviewed and Reaffirmed 1960.

# SANDWICH CONSTRUCTIONS AND MATERIALS (continued)

Title	Author	Publication and date
<u>Properties</u> (continued)		
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*The bending of a circular sandwich plate under normal load.	Ericksen, W. S.	FPL Rept. 1828. 1953. Information Reviewed and Re- affirmed 1960.
*Stresses within a rectangular, flat sandwich panel subjected to a uniformly distributed normal load and edgewise, direct, and shear loads.	Norris, C. B., & Kommers, W. J.	FPL Rept. 1838. 1953. Information Reviewed and Re- affirmed 1962.
*Buckling of sandwich cylinders in torsion.	March, H. W., & Kuenzi, E. W.	FPL Rept. 1840. Revised 1958.
*Developments and trends in light-weight composite construction.	Markwardt, L. J.	Am. Soc. Testing Materials Spec. Tech. Pub. No. 118, pp. 3-31. 1952.
*Behavior of a rectangular sandwich panel under a uniform lateral load and compressive edge loads.	March, H. W.	FPL Rept. 1834. 1952. Information Reviewed and Re- affirmed 1958.
*Shear-fatigue properties of various sandwich constructions.	Werren, F.	FPL Rept. 1837. 1952. Information Reviewed and Re- affirmed 1958.

## SANDWICH CONSTRUCTIONS AND MATERIALS (continued)

Title	Author	Publication and date
<u>Properties</u> (continued)		
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*Buckling of cylinders of sandwich construction in axial compression.	March, H. W., & Kuenzi, E. W.	FPL Rept. 1830. Revised 1957.
Strength of sandwich construction.	Norris, C. B.	Am. Soc. Testing Materials Spec. Tech. Pub. No. 118, pp. 46-53. 1952. Philadelphia, Pa.
Sandwich construction in the elastic range.	March, H. W.	Am. Soc. Testing Materials Spec. Tech. Pub. No. 118, pp. 32-45. 1952.
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*Effects of shear deformation in the core of a flat rectangular sandwich panel:	March, H. W.	FPL Rept. 1583. 1948. Information Reviewed and Re-
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2. Deflection under uniform transverse load.		

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Title	Author	Publication and date
<u>Properties</u> (continued)		
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*Supplement: Compressive buckling of sandwich panels having facings of unequal thickness.	Ericksen, W. S., & March, H. W.	FPL Rept. 1583-B. Revised 1958.
*Supplement: Deflection under uniform load of sandwich panels having facings of unequal thickness.	Ericksen, W. S.	FPL Rept. 1583-C. 1950. Information Reviewed and Re-affirmed 1962.
*Supplement: Deflection under uniform load of sandwich panels having facings of moderate thickness.	Ericksen, W. S.	FPL Rept. 1583-D. 1951. Information Reviewed and Re-affirmed 1958.
*Effect of defects on strength of aircraft type sandwich panels.	Mohaupt, A. A., & Heebink, B. G.	FPL Rept. 1809. 1949. Information Reviewed and Re-affirmed 1962.
*Supplement.	Mohaupt, A. A., & Heebink, B. G.	FPL Rept. 1809-A. 1949. Information Reviewed and Re-affirmed 1958.

## SPECIES

### \*American Woods

Alder, red	Hackberry	Pine, southern
Baldcypress	Hemlock, eastern	" sugar
Beech, American	" western	" western white
Buckeye	Holly, American	Poplar, balsam
Butternut	Larch, western	Redwood
Cedar, Alaska	Locust, black	Spruce, Sitka
" , incense-	Maple	Sweetgum
" , eastern red-	Oaks	Sycamore, American
" , northern white-	Osage-orange	Tamarack
" , Port Orford white-	Pecan	Tupelo
Cherry, black	Persimmon	Walnut, black
Chestnut	Pine, eastern white	Willow, black
Douglas-fir	" , jack	Yellow poplar
Fir, balsam	" , ponderosa	
" , noble	" , red	
" , white		

:	:	:
Species :	Title	Author : Publication and date
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### American Woods (continued)

Aspen	: Mechanical properties	: Johnson, R. P. A.	: Lake States (Univer-
	: of aspen.	:	: sity Farm, St. Paul 1
	:	:	: Minn.) Aspen Rept.
	:	:	: No. 7, July 1947.
	:	:	:
Elm	:*Southern hard elm	: Dohr, A. W.	: South. Lbrmn.
	: strength properties	:	: 187(2345):187-188,
	: compare favorably	:	: Dec. 15, 1953.
	: with rock elm.	:	:
	:	:	:
	:*Southern hard elms as	: Baudendistel, M.E.,	: South. Lbrmn.
	: substitutes for rock	: & Paul, P. H.	: 169(2129):211-215,
	: elm.	:	: Dec. 15, 1944.
	:	:	:

SPECIES (continued)

Species :	Title :	Author :	Publication and date :
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<u>American Woods</u> (continued)			
Fir	*Some physical and mechanical properties of noble fir.	Paul, B. H., Dohr, A. W., & Drow, J. T.	FPL Rept. 2168. 1959.
	*California red fir compares favorably with other western species.	Drow, J. T., & Ericksen, L. N.	Calif. Lumber Merchant, Dec. 1, 1947.
	Properties of white fir and their relation to the manufacture and uses of wood.	Johnson, R. P. A., & Brundage, M. R.	USDA Tech. Bull. 408. 1934. Out of Print.
Hawaiian	*Physical, mechanical, and other properties of five Hawaiian woods.	Youngs, R. L.	FPL Rept. 2191. 1960.
Hemlock	*Properties of western hemlock and their relation to uses of the wood.	Johnson, R. P. A., & Gibbons, W. H.	USDA Tech. Bull. 139. 1929.
Hickory	*A tone test for hickory.	Heck, G. E.	South. Lbrmn. 179(2249):268, 270, Dec. 15, 1949.
	*The quality of Appalachian hickory.	Paul, B. H.	South. Lbrmn., Apr. 6, 1929.
Larch	Strength of western larch and its suitability for poles.	Drow, J. T.	Timberman 50(9): 94, 96, July 1949.
	Properties of western larch and their relation to uses of the wood.	Johnson, R. P. A., & Bradner, M. I.	USDA Tech. Bull. 285. 1932. Out of Print.

SPECIES (continued)

Species :	Title :	Author :	Publication and date :
<hr/>			
<u>American Woods</u> (continued)			
Oak	:*Some properties of Cali-	Paul, B. H.,	: FPL Rept. 2135.
	: fornia white oak and	: Dohr, A. W., &	: 1958.
	: Oregon white oak.	: Drow, J. T.	:
	:	:	:
Pine	:*Mechanical properties	: Dohr, A. W.	: FPL Rept. 2102.
	: of Coulter pine from	:	: 1958.
	: California.	:	:
	:	:	:
	:*Mechanical properties	: Drow, J. T.,	: FPL Rept. 2090.
	: of ponderosa pine from:	: Dohr, A. W., &	: 1957.
	: the Black Hills.	: Bellosillo, S.	:
	:	:	:
	:*Strength of Virginia	: Dohr, A. W.	: South. Lbrmn.
	: pine established.	:	: 181(2273):225-226,
	:	:	: Dec. 15, 1950.
	:	:	:
	:*The white pine group.	:	: FPL Tech. Note
	:	:	: 215. 1957.
	:	:	:
Redwood	:*The strength and related:	Luxford, R. F., &	: USDA Tech. Bull.
	: properties of redwood.	: Markwardt, L. J.	: 305. 1932.
	:	:	:
Spruce	:*Mechanical properties	: Drow, J. T.	: FPL Rept. 1944-4.
	: of Engelmann spruce.	:	: Revised 1960.
	:	:	:
Tanoak	:*Specific gravity, shrink-	Paul, B. H.,	: FPL Rept. 2041.
	: age, and strength of	: Dohr, A. W., &	: 1955. Information
	: tanoak.	: Drow, J. T.	: Reviewed and Re-
	:	:	: affirmed 1960.
	:	:	:
Yellow	:*Survey of strength and	: Luxford, R. F., &	: FPL Rept. 1516.
poplar	: related properties of	: Wood, L. W.	: Revised 1953. In-
	: yellow-poplar.	:	: formation Reviewed
	:	:	: and Reaffirmed
	:	:	: 1959.



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:	:	:
Species :	Title :	Author : Publication and date
-----:	-----:	-----:

### American Woods (continued)

General :	"Virgin growth" and :	FPL Tech. Note
:	"second growth." :	153. 1957.
:	:	:
:	*Differences between :	FPL Tech. Note
:	heartwood and sap- :	189. Reissued
:	wood. :	1962.
:	:	:

### Foreign Woods

Leaflets on the following foreign woods are issued by the Forest Service, U.S. Department of Agriculture:

*Balsa	*Greenheart	*Khaya	*Lignumvitae	*Teak
*Brazilian araucaria	*Iroko	*Lauans	*Mahogany	

Other general reports on foreign woods issued by the Forest Products Laboratory are named in the list of publications on the structure and identification of wood described on page 79.

:	:	:
Species :	Title :	Author : Publication and date
-----:	-----:	-----:

### Foreign Woods

Balsa :	*Strength and related :	Weipking, C. A., :	FPL Rept. 1511.
:	properties of balsa :	& Doyle, D. V. :	1944. Information
:	and quipo woods. :	:	Reviewed and Re-
:	:	:	affirmed 1960.

**SPECIES (continued)**

Species	Title	Author	Publication and date
<u>Foreign Woods</u> (continued)			
Bamboo	*Properties of some bamboos cultivated in the western hemisphere.	Heck, G. E.	FPL Rept. 1765. 1949. Information Reviewed and Re-affirmed 1962.
Caribbean	Present and potential commercial timbers of the Caribbean.	Longwood, F. R.	U.S. Department of Agriculture Handbook No. 207. Mar. 1962. Available from Superintendent of Documents, Government Printing Office, Washington 25, D. C. Price \$1.
Imported:	*Characteristics of some imported woods.	Kukachka, B. F.	FPL Rept. 2242. 1962.
Parana pine	*Mechanical properties of Brazilian parana pine.	Dohr, A. W.	South. Librmn., 186(2324):39-40, 42, Feb. 1, 1953.
Puerto Rican	Puerto Rican Woods-- Their machining, seasoning and related characteristics.	Longwood, F. R.	U.S. Department of Agriculture Handbook No. 205. Nov. 1961. Available from Superintendent of Documents, Government Printing Office, Washington 25, D. C. Price 65 cents.

## STEAM BENDING

Title	Author	Publication and date
Bending solid wood to form.	Peck, E. G.	U.S. Department of Agriculture Hand- book No. 125. Dec. 1957. Avail- able from the Su- perintendent of Documents, Gov- ernment Printing Office, Washinton 25, D. C. Price 15 cents.
A further improvement in pans for use in the hot-press bending of chair posts.	Wilson, T.R.C.	Wood Working Indus., Feb. 1927.

## STRUCTURAL TIMBERS

Title	Author	Publication and date
*Shear stress in two wood beams over wood block supports.	Cowan, W. C.	FPL Rept. 2249. 1962.
*Working stresses for farm build- ing lumber.	Wood, L. W.	Agric. Eng., 42(1): 18-21, 25. Jan. 1961.
Tentative recommended practice for determining design stresses for load-sharing lumber mem- bers.		Am. Soc. Testing Materials Std. D2018-62 T. Issued 1961.

# STRUCTURAL TIMBERS (continued)

Title	Author	Publication and date
*Simplified principles for structural grading of timber.	Markwardt, L. J., & Wood, L. W.	FPL Rept. 2112. 1958.
The factor of safety in design of timber structures.	Wood, L. W.	Paper 3051. Transactions of Am. Soc. Civil Engrs., Vol. 125, 1960.
Duration of load and fatigue in wood structures.	Wood, L. W., Horner, A. C., Lewis, W. C., & Ruble, E. J.	Jour. of the Struc. Proc. ASCE 83(ST5):1361-1 to 1361-8. 1957.
*Evaluation of the factor of safety in structural timbers.	Wood, L. W., & Tasker, Marilyn	FPL Rept. 2068. 1957.
*Formulas for columns with side loads and eccentricity.	Wood, L. W.	FPL Rept. 1782. 1950. Information Reviewed and Reaffirmed 1961.
*Properties of white-pocket Douglas-fir lumber.	Wood, L. W.	FPL Rept. 2017. 1955. Information Reviewed and Reaffirmed 1960.
*Structural values of old lumber.	Wood, L. W.	South. Lbrmn., 189(2369):158-160, Dec. 15, 1954. FPL Rept. 2009. 1954. Information Reviewed and Reaffirmed 1959.

# STRUCTURAL TIMBERS (continued)

Title	Author	Publication and date
*The testing of timber--IV. Strength studies of timber and the development of structural timber grades in the United States.	Markwardt, L. J., & Wood, L. W.	The Inc. Assoc. of Arch. & Surveyors, London, England. 1953. (Pt. IV in: Inst. of Civil Eng. Joint Com. on Mat. and their Testing.)
Lumber: Simplified practice recommendation 16-53.		U.S. Bureau of Standards. 1953. Price 15 cents.
*Strength of wood beams of rec- tangular cross section as af- fected by span depth ratio.	Bechtel, S. C., & Norris, C. B.	FPL Rept. 1910. 1952. Information Reviewed and Re- affirmed 1959.
Grading problems that challenge the lumber industry.	Johnson, R. P. A.	Forest Prod. Res. Soc. Proc., 1950.
Tentative methods for establish- ing structural grades of lumber.		Am. Soc. Testing Materials, ASTM Desig. D245-62T. Revised 1962.
Structural timbers for bridge construction in Central America.	Scholten, J. A.	National Research Council Div. Eng. & Indus. Res. High- way Res. Board Proc. 202-206. 1944.
Falling of timber with less damage.	Newlin, J. A.	Timberman, June 1940.

# STRUCTURAL TIMBERS (continued)

Title	Author	Publication and date
Size of knot.	Newlin, J. A.	Wood Pres. News, Apr. 1940.
--Same.		Am. Soc. Testing Materials Std. D9-30. Reapproved in 1958.
Tests show strength of Douglas- fir stringers after 23 years service.	Newlin, J. A., & Heck, G. E.	Ry. Eng. & Main- tenance, Aug. 1934.
*New method of calculating longi- tudinal shear in checked wooden beams.	Newlin, J. A., Heck, G. E., & March, H. W.	Transactions of Am. Soc. Mech. Engrs., Oct. 1934.
Shear in checked beams.	Newlin, J. A.	Am. Ry. Engr. Assn. Bull. 364, Feb. 1934; Wood Pres. News, Apr. 1934.
Wood beam design method promises economies.	Newlin, J. A., Heck, G. E., & March, H. W.	Eng. News-Record, 1933.
How lumber is graded.	Betts, H. S.	USDA Circ. 64. 1930. Price 10 cents.
Tests of large timber columns and presentation of the Forest Products Laboratory column formula.	Newlin, J. A., & Gahagan, J. M.	USDA Tech. Bull. 167. 1930. Price 10 cents.

## STRUCTURAL TIMBERS (continued)

Title	Author	Publication and date
Strength tests of cross-arm.	Wilson, T. R. C.	U.S. Forest Service Circ. 204. 1912. Out of Print.
Mine timber: Its selection, storage, treatment, and use. Chapter on methods of prolonged life of mine timber, by G. M. Hunt.	Horner, R. R., & Tufft, H. E.	U.S. Bureau of Mines Bull. 235. 1925. Out of Print.
The strength of mine timbers.	Johnson, R. P. A.	Am. Mining Congress Sec. of Mine Timber- ing Comm. Rept. 1923. Am. Mining Cong. Std. Bull. 4. 1924.
Rocky Mountain mine timbers.	Betts, N. D.	USDA Bull. 77. 1914. Out of Print.

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Title	Author	Publication and date
<u>Aircraft</u> (See also Plywood and Sandwich)		
*Effect of thickness of plywood reinforcing plates on the behavior of solid wood aircraft spars under changes in moisture content.	Sanborn, W. A.	FPL Rept. 1527. 1945. Information Reviewed and Re- affirmed 1962.
*A comparison of shearing strengths of glued joints at various grain directions as determined by four methods of test.	McLeod, A. M., Yolton, L. A., Sandborn, W. A., & Phillips, R. S.	FPL Rept. 1522. 1945. Information Reviewed and Re- affirmed 1962.

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Title	Author	Publication and date
<u>Aircraft</u> (continued)		
Design of wood aircraft structures.		ANC-18. June 1951. Available from Superintendent of Documents, Government Printing Office. Washington 25, D. C. Price \$1.25
Wood aircraft inspection and fabrication.		ANC-19. Apr. 1951 Available from Superintendent of Documents, Government Printing Office. Washington 25, D. C. Price \$1.25.
Effect of cell shape on compressive strength of hexagonal honeycomb structures.	Ringelstetter, L.A., Voss, A. W., & Norris, C. B.	U.S. NACA Tech. Note 2243. Dec. 1950. Washington 25, D. C.
Shear stress distribution along the glue line between the skin and cap-strip of an aircraft wing.	Norris, C. B., & Ringelstetter, L. A.	U.S. NACA Tech. Note 2152. 1950. Washington 25, D. C.
Aircraft woods: Their properties, selection, and characteristics.	Markwardt, L. J.	U.S. NACA Rept. 354. 1930. Washington 25, D. C.
Strength and characteristics of wood used in aircraft construction.	Trayer, G. W.	Am. Soc. Testing Materials Proc. 1930.



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Title	Author	Publication and date
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*Shear strength and accelerated durability tests on glue joints in laminated red oak beams applicable to such uses as truck bodies, wagons, and implement parts.	: Selbo, M. L.	: FPL Rept. 1686. 1947. Information Reviewed and Re-affirmed 1960.
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### Buildings and Structures

#### General

Minimum property standards for one and two living units.	: Federal Housing Administration	: FHA No. 300. Nov. 1958. Available from Superintendent of Documents, Government Printing Office, Washington 25, D. C. Price \$1.75.
National design specification for stress-grade lumber and its fastenings.	: National Lumber Manufacturers Association	: 1961 Ed. Washington 6, D. C. Price 50 cents.
Timber design and construction handbook.	: Timber Engineering Co.	: 1956. F. W. Dodge Corp., New York. Price \$12.75.
Modern timber engineering.	: Scofield, W. F., & O'Brien, W. H.	: 1954. Southern Pine Association. New Orleans 4, La. Price \$2.

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Title	Author	Publication and date
<u>Buildings and Structures</u> (continued)		
<u>General</u> (continued)		
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*What can be expected from treated wood in highway construction.	Blew, J. O., Jr.	FPL Rept. 2235. 1961.
*Recommended building code requirements for wood or wood-base materials.	Wood, L. W.	FPL Rept. 2075. 1957.
Wood-frame house construction.	Anderson, L. O., & Heyer, O. C.	U.S. Department of Agriculture Handbook No. 73. 1955. Available from Superintendent of Documents, Government Printing Office, Washington 25, D.C. Price 65 cents.
*Structural performance requirements in housing codes.	Wood, L. W.	Am. Soc. Testing Materials Reprint from Symposium on Methods of Testing Building Const., Spec. Tech. Pub. 166. 1954.
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Title	Author	Publication and date
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### General (continued)

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Recommended minimum requirements for small dwelling construction: Report of the Department of Comm. Building Code Comm.	:	:	Building and Housing Pub. 18. 1932. Price 10 cents.
Cut out those ladder accidents.	: Freas, A. D.	:	Magazine of Standards (Am. Standards Assn.) 30(5): 142-143. May 1959.
*The role of inspection in wood ladder safety.	: Markwardt, L. J.	:	FPL Rept. 1994. 1954. Information Reviewed and Reaffirmed 1959.
*Wood scaffold planks.	:	:	FPL Tech. Note 264. 1962.
*Wood seats for stadiums.	:	:	FPL Rept. 1006. Revised 1958.
*Facts and fancies about ladders.	: Markwardt, L. J., & Freas, A. D.	:	National Safety News, Dec. 1950.

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Title	Author	Publication and date
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*Ladders and ladder safety.	: Markwardt, L. J.	: Plant Engineering, : 1956.

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*Moisture condensation in barns.	: Teesdale, L. V.	: FPL Rept. 1231. : 1940. Information : Reviewed and Re- : affirmed 1962.
*Condensation problems in farm buildings.	: Teesdale, L. V.	: FPL Rept. 1186. : 1938. Information : Reviewed and Re- : affirmed 1958.
*Thermal insulation made of wood- base materials--Its application and use in houses.	: Teesdale, L. V.	: FPL Rept. 1740. : 1949. Revised : 1958.
*Remedial measures for building condensation difficulties.	: Teesdale, L. V.	: FPL Rept. 1710. : Revised 1955. In- : formation Reviewed : and Reaffirmed : 1962.

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Title	Author	Publication and date
<u>Buildings and Structures</u> (continued)		
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Attic condensation.		Housing & Home Finance Agency Tech. Bull. 6. Sept. 1948.
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Title	Author	Publication and date
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America's wooden houses.	Anderson, L. O.	Indian Builder, pp. 36-39, Mar. 1962.
Wood floors for dwellings.		U.S. Department of Agriculture Handbook No. 204, 44 pp. Sept. 1961. Available from Superintendent of Documents, Government Printing Office, Washington 25, D. C. Price 35 cents.
*Paper overlaid lumber.	Heebink, B. G.	Forest Prod. Jour. 11(4):167-175, Apr. 1961.
*The use of wood in tomorrow's house.	Fleischer, H. O.	Forest Prod. Jour. 10(12):648-650, Dec. 1960.

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Title	Author	Publication and date
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*Use development for particle board.	Lewis, W. C.	Forest Prod. Jour. 8(2):27A-30A, Feb. 1958.
*Materials of construction: Wood.	Stamm, A. J., & Baechler, R. H.	Indus. & Eng. Chem. 50(9) Pt. 2:1496, Sept. 1958.
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Title	Author	Publication and date
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*Suitability of woods for use in barns and other farm structures.		FPL Tech. Note 246. Reissued 1953.
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Insulation boards from wood waste.		Housing & Home Finance Agency Tech. Bull. No. 5, July 1948.
Wood, too, needs protection from the elements.	Freas, A. D.	Miss. Valley Librmn. Vol. 77, No. 52, Dec. 27, 1946.
Use and abuse of wood in house construction.	Johnson, R. P. A., & Davis, E. M.	USDA Misc. Pub. 358. 1939. Available from Superintendent of Documents, Washington 25, D. C. Price 10 cents.
*Selection of lumber for farm and home building.	Sweet, C. V., & Johnson, R. P. A.	USDA Farmer's Bull. 1756. 1936.



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Title	Author	Publication and date
<u>Buildings and Structures</u> (continued)		
<u>Structural Components</u>		
*Built-up beams for light frame and pole construction.	: Doyle, D. V.	: FPL Rept. 2230.
	:	: 1962.
	:	:
Determination of member stresses in wood trusses with rigid joints.	: Suddarth, S. K.	: Purdue University
	:	: Res. Bull. No. 714.
	:	: Feb. 1961.
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*Evaluation of the stiffness of a roof system made of glued-laminated beams and heavy timber decking.	: Werren, F.	: FPL Rept. 2229.
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	:	: 1959.
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*Performance of structural pole frames under test load.	: Doyle, D. V.	: FPL Rept. 2111.
	:	: 1958.
	:	:
*Light wood trusses.	: Luxford, R. F.	: Paper 1839, Jour. of
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	:	: the Am. Soc. Civil
	:	: Engrs. Vol. 84,
	:	: No. ST7, 1958.
	:	: Also FPL Rept.
	:	: 2113. 1958.
	:	:
*Segmental rafters for Gothic-roofed farm buildings.	:	: FPL Tech. Note
	:	: 261. 1958.
	:	:
	:	:

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Title	Author	Publication and date
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*Strength tests of spliced studs.	Erickson, E. C. O.	FPL Rept. 1275. Revised 1959.

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Title	Author	Publication and date
<u>Buildings and Structures</u> (continued)		
<u>Structural Components</u> (continued)		
*Rigidity and strength of wall frames braced with metal strapping.	Erickson, E. C. O.	FPL Rept. 1603. 1946. Information Reviewed and Re- affirmed 1960.
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*The designing for strength of flat panels with stressed coverings.	Newlin, J. A.	FPL Rept. 1220. 1939. Information Reviewed and Re- affirmed 1957.
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Plank-and-beam system for residential construction.	Housing & Home Finance Agency	Housing & Home Finance Agency Construction Aid 4. 1953.
*Trends in house construction.	Anderson, L. O.	Forest Prod. Res. Soc. Jour., Vol. 11, No. 5, Dec. 1952.

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Title	Author	Publication and date
<u>Buildings and Structures</u> (continued)		
<u>Structural Components</u> (continued)		
*Research in wind-resistant farm building construction.	Doyle, D. V.	FPL Rept. 1930. 1952. Information Reviewed and Re- affirmed 1959.
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New developments in construction research; tests on floor panels, laminated rafters, and radiant heating may lead to new building techniques.	Harker, B. A.	Am. Lbrmn. 3491: 46-47, 94. May 19, 1952.
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Properties of experimental wood-base house flooring materials (including a tentative test procedure for flooring).		Housing & Home Finance Agency Tech. Paper No. 11. Nov. 1948.
Physical properties and fabrication details of experimental honeycomb core sandwich house panels.		Housing & Home Finance Agency Tech. Paper No. 7. Feb. 1948.

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Title	Author	Publication and date
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Title	Author	Publication and date
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## VENEER AND PLYWOOD

Title	Author	Publication and date
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*The bending strength and stiffness of plywood.	Freas, A. D.	FPL Rept. 1304. Revised 1956. In- formation Reviewed and Reaffirmed 1962.
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# VENEER AND PLYWOOD (continued)

Title	Author	Publication and date
*Buckling of thin-walled plywood cylinders in torsion.	March, H. W., Norris, C. B., Smith, C. B., & Kuenzi, E. W.	FPL Rept. 1529. 1945. Information Reviewed and Re- affirmed 1960.
*Effect of circumferential stiffeners on the buckling properties of thin, curved plywood panels in axial compression.	Heebink, T. B., & Norris, C. B.	FPL Rept. 1812. 1950. Information Reviewed and Re- affirmed 1961.
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*Supplement: Buckling of plates of any symmetrical construction. Edges simply supported. Buckling of plates with two edges clamped.	March, H. W.	FPL Rept. 1316-B. 1942. Information Reviewed and Re- affirmed 1962.
*Supplement: Plates having the grain of the face plies inclined to the edges.		FPL Rept. 1316-C. 1943. Information Reviewed and Re- affirmed 1962.
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Title	Author	Publication and date
*Supplement: Effective width of thin plywood plates in compression with the face grain at 0° and 90° to load.	Norris, C. B., & Voss, A. W.	FPL Rept. 1316-E. 1943. Information Reviewed and Reaffirmed 1961.
*Supplement: Buckling of long, flat plywood plates under uniform shear. Grain of face plies inclined to edges. Edges clamped.	March, H. W.	FPL Rept. 1316-F. 1943. Information Reviewed and Reaffirmed 1962.
*Supplement: Buckling tests of flat plywood plates in compression with face grain at 15°, 30°, 45°, 60°, and 75° to load.	Norris, C. B., & Voss, A. W.	FPL Rept. 1316-G. 1943. Information Reviewed and Reaffirmed 1960.
*Supplement: Buckling of flat plywood plates in uniform shear with face grain at angles of 0°, ±45°, and 90°.	Voss, A. W., & Norris, C. B.	FPL Rept. 1316-H. Revised 1950. Information Reviewed and Reaffirmed 1962.
*Supplement: Effective width of thin plywood plates at maximum load in compression with the face grain at 0°, 15°, 30°, 45°, 60°, 75°, and 90° to load.	Norris, C. B., Voss, A. W., & McKinnon, P. F.	FPL Rept. 1316-I. 1945. Information Reviewed and Reaffirmed 1962.
*Supplement: Buckling tests of flat plywood plates in compression with face grain 45° to load--Loaded edges clamped, others simply supported.	Ringelstetter, L. A.	FPL Rept. 1316-J. 1949. Information Reviewed and Reaffirmed 1962.



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Title	Author	Publication and date
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*Supplement: Stiffeners in box beams and details of design.	Lewis, W. C., & Dawley, E. R.	FPL Rept. 1318-A. 1943. Information Reviewed and Re-affirmed 1958.
*Supplement: Buckling in shear webs of box and I-beams and the effect upon design criteria.	Lewis, W. C., Heebink, T. R., Cottingham, W. S., & Dawley, E. R.	FPL Rept. 1318-B. 1943. Information Reviewed and Re-affirmed 1960.
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Title	Author	Publication and date
*Torsional buckling of longitudinally stiffened, thin-walled, plywood cylinders.	: Kuenzi, E. W., & : Norris, C. B.	: FPL Rept. 1563. : 1948. Information : Reviewed and Re- : affirmed 1962.
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*Flat plates of plywood under uniform or concentrated loads.	: March, H. W.	: FPL Rept. 1312. : 1942. Information : Reviewed and Re- : affirmed 1962.

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Title	Author	Publication and date
*Buckling of long, thin, plywood cylinders in axial compression.	March, H. W., Norris, C. B., & Kuenzi, E. W.	FPL Rept. 1322. 1943. Information Reviewed and Re- affirmed 1962.
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*Effects of certain defects and stress-concentrating factors on the strength of tension flanges of box beams.	Lewis, W. C., Heebink, T. B., & Cottingham, W. S.	FPL Rept. 1513. 1944. Information Reviewed and Re-affirmed 1959.
*Properties of ordinary wood compared with plywood.		FPL Tech. Note 131. Reissued 1962.
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*Changing utilization of hardwoods.	Locke, E. G.	FPL Rept. 2244. 1962.
*Study and Investigation of use of materials and new design and methods in public works: The role of wood and wood products in public works.		87th Congress, 2nd Session, Committee Print No. 2, 70 pp. 1962.
*FPL 1961: Annual report of the Forest Products Laboratory.	Forest Products Laboratory	36 pp. 1961.
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Wood: Colors and kinds.	Forest Products Laboratory	U.S. Department of Agriculture Handbook No. 101, 36 pp. Oct. 1956. Available from Superintendent of Documents, Government Printing Office, Washington 25, D.C. Price 50 cents.
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*Some books about wood (a list).		FPL Rept. 399. Revised 1961.
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Research in forest products aids standardization.	Markwardt, L. J.	Standards World 2(2): 155-170, Apr. 1950.
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Chemistry of Wood and Derived Products--Chemical properties and uses of wood products, such as turpentine, alcohol, and acetic acid.

Fire Protection--Fire test methods, fire retarding chemicals and treatments, and fire behavior of treated and untreated wood, wood products, and wood structures.

Fungus Defects in Forest Products--Decay, stains, and molds in timber, buildings, and various wood products; antiseptic properties of protective materials.

Furniture Manufacturers, Woodworkers, and Teachers of Wood Shop Practice--Partial list of Government publications on growth, structure, and identification of wood; moisture content, physical properties, air seasoning, and kiln drying; grading, manufacturing, and waste utilization; strength and related properties and joints and fastenings; glues and gluing, veneer and plywood fabrication; box and crate construction.

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